AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A brake control system for a wheel of a vehicle in motion comprising:

a) ~~a registration unit for longitudinal acceleration~~ an accelerometer attached to the vehicle and configured to measure a deceleration of the vehicle and output a deceleration signal;

b) a brake pressure sensor configured to output a brake pressure signal; and ~~registration unit for brake pressure to wheel brake;~~

c) a ~~computation function which continuously compare changes in acceleration and transmits signals to a pressure regulator for brake pressure; and~~ brake controller configured to:

receive a plurality of deceleration signals from the accelerometer and calculate a change in measured deceleration over time;

receive the brake pressure signal and calculate a change in an applied brake pressure; and

calculate a brake pressure adjustment signal using the calculated change in measured deceleration and the calculated change in applied brake pressure

~~d) a pressure regulator designed to increase or reduce brake pressure to wheel brake~~.

2. (Currently Amended) A method ~~of~~ for controlling ~~the brake pressure controller for~~ a braking operation of a wheel of a vehicle in motion ~~which changes brake pressure in accordance to change in longitudinal acceleration over time characterized by~~, comprising:

applying brake pressure to a wheel of a vehicle;

measuring a deceleration of the vehicle;

measuring the brake pressure applied to the wheel;

increasing the brake pressure to the wheel after the brake pressure has been applied ~~a) brake pressure to wheel brake is set off and increased evenly~~;

calculating ~~b)longitudinal acceleration is compared~~ a change in deceleration of the vehicle from ~~one~~ a first time frame to a second time frame ~~the next~~;

calculating a change in the measured brake pressure applied to the wheel from the first time frame to the second time frame ~~c) when the acceleration negative value in one time frame to the next increases, brake pressure is increased~~; and

reducing the brake pressure applied to the wheel when the calculated change in measured deceleration becomes negative and the calculated change in measured brake pressure applied to the wheel is greater than or equal to zero ~~d) when acceleration negative value in one time frame to the next decreases decreased brake pressure is reduced; then~~;

~~e) functions "b", "c" and "d" are reiterated continuously until vehicle has come to a stop~~.

3. (Currently Amended) The method of claim 2, ~~characterized by that~~ wherein the measured deceleration ~~acceleration information used~~ is computed as a vector equal to a ~~the~~ hypotenuse in a right-angle triangle where longitudinal and lateral acceleration are equal to ~~right-angle~~ sides adjacent to the right-angle of the triangle.

4. (Currently Amended) ~~System~~ The system of claim 1, ~~characterized by that~~ wherein the vehicle is an aircraft.

5. (Currently Amended) ~~System~~ The system of claim 1, ~~characterized by being~~ wherein the wheel brake is an automatic brake.

6. (Currently Amended) ~~System~~ The system of claim 1, ~~characterized by being~~ wherein the wheel brake is a ~~manual/pedal~~ manual brake.

7. (Currently Amended) The method of claim 2, ~~characterized by that~~ wherein the vehicle is an aircraft.

8. (Currently Amended) The method of claim 2, ~~characterized by being~~ wherein the brake pressure is applied with an automatic brake.

9. (Currently Amended) The method of claim 2, ~~characterized by being~~ wherein the brake pressure is applied with a ~~manual/pedal~~ manual brake.

10. (New) The system of claim 1, wherein the measured deceleration is computed as a vector equal to a hypotenuse in a right-angle triangle where longitudinal and lateral acceleration are equal to sides adjacent to the right-angle of the triangle.

11. (New) The system of claim 1, wherein the measured deceleration is a vehicle longitudinal acceleration, lateral acceleration, or vertical acceleration.

12. (New) The system of claim 1, wherein the brake controller is further adapted to determine a maximum braking capability of the vehicle using the measured deceleration of the vehicle.

13. (New) The system of claim 1, wherein the vehicle deceleration signal comprises a vehicle longitudinal, lateral, or vertical acceleration data.

14. (New) The system of claim 1, wherein the brake controller is further adapted output deceleration data to a data storage file or a display.

15. (New) The method of claim 2, wherein the measured deceleration is a vehicle longitudinal acceleration, lateral acceleration, or vertical acceleration.

16. (New) The method of claim 2, further comprising determining a maximum braking capability of the vehicle using the deceleration of the vehicle.

17. (New) The method of claim 2, wherein brake pressure applied to the wheel is reduced by a predetermined pressure increment.

18. (New) The method of claim 2, wherein the measured deceleration of the vehicle represents information about optimal braking capability of the vehicle when the calculated change in measured deceleration becomes negative and the calculated change in measured brake pressure applied to the wheel is greater than or equal to zero.

19. (New) The method of claim 2, further comprising measuring velocity of the vehicle, and applying the brake pressure to the wheel only when velocity is greater than zero.

20. (New) The method of claim 2, wherein the brake pressure to the wheel is increased incrementally.